

IN THE CLAIMS:

Clean version of amended claims

1. (amended) A method for contactless measurement of a wall thickness of a transparent object by employing of light sources, lenses, deflection mirrors or deflection prisms, semi permeable mirrors as well as line sensors and a controller, characterized in that light from a first illuminating surface (11) is initially collimated and in the following focused onto a surface of the transparent object (1) with an angle incidence relative to a normal of the surface, wherein two reflexes of light, which reflexes occur at a front side (1.1) and at an inner side (1.2), are imaged furthermore onto a first opto-electronic image resolving sensor (26) and wherein light from a second illuminating surface (21) is simultaneously also initially collimated and in the following focused in the direction toward the surface of the transparent object (1), wherein the direction toward the surface of the transparent object (1) corresponds to the exit direction of the light from the first illuminating surface (11), and wherein furthermore reflexes of light are imaged onto the second opto-electronic image resolving sensor (16) and wherein the average value of the distances of the respective two reflexes on the two opto-electronic image resolving sensors is evaluated as a measure of the wall thickness in a following disposed controller (3).

2. (amended) Device for contactless measurement of wall thickness of a transparent object employing light sources, lenses, semi permeable mirrors or semi permeable prisms as well as image resolving sensors and a controller, characterized in that a lens (12) is disposed following to a first illuminating surface (11), wherein semi permeable mirror (13) is disposed behind the lens (12) in such a way that light is reflected into an objective (14) and is further focused onto the transparent object (1) and wherein furthermore an objective (24) is disposed such that the objective (24) together with a lens (25) images beams reflected at the transparent object (1) onto a sensor (26) through a semi permeable mirror (23) and wherein a lens (22) is simultaneously coordinated to a second illuminating surface (21), wherein the semi permeable mirror (23) is disposed following to the lens (22) in such a way that light from the second illuminating surface (21) is focused also onto the transparent object (1), wherein the direction of incidence of light corresponds to the exit direction of

light from the first illuminating face and wherein reflexes are imaged onto a sensor (16) through the objective (14), wherein a controller (3) is connected following to the two sensors (16) and (26).

3. (amended) Device according to claim 2, characterized in that the illuminating surfaces (11) and (21) are light exit openings of light guides.

5. (amended) Device according to claim 2 characterized in that the illuminating surfaces (11) and (21) are lasers with beam expansion optics.

6. (amended) Device according to claim 2, characterized in that the illuminating surfaces (11) and (21) are light sources with predisposed slot diaphragms.

7. (new) Device for contactless measurement of wall thickness of container glass of transparent object (1) with a front side (1.1) and an inner side (1.2) comprising

a first illuminating surface (11) and a second illuminating surface (21) for generating diverging light beams;

a first lens (12) and a second lens (22) for generating parallel light beams from the diverging light beams generated by the illuminating surfaces (11) and (21) respectively;

a first semi-permeable mirror (13) a second semi-permeable mirror (23) for selective light beams reflection or transmission;

a first objective (14) and a second objective (24) for focusing and generating parallel light beams;

a first sensor (16) and a second sensor (26);

a third lens (15) and a fourth lens (25) for focusing light beams onto the first sensor (16) and the second sensor (26) respectively;

a controller (3) for averaging values determined by the first sensor (16) and the second sensor (26).

8. (new) A method for performing contactless measurement of a wall thickness of transparent container glass comprising

generating diverging light beams;

generating parallel light beams from the diverging light beams and directing the generated parallel light beams;

focusing the directed parallel light beams onto a transparent object (1) having a front side (1.1) and an inner side (1.2)

reflecting focused parallel light beams from the front side (1.1) and the inner side (1.2);

generating parallel light beams from the diverging light beams reflected by the front side (1.1) and the inner side (1.2);

focusing and obtaining light values of reflected parallel light beams;

analyzing obtained light values and determining a wall thickness of the transparent object (1).

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